

WHAT IS CLAIMED IS:

- 1 *Sub B1* 1. A method for identifying a compound that modulates sensory
2 signaling in sensory cells, the method comprising the steps of:
3 (i) contacting the compound with a sensory cell specific G-protein
4 beta polypeptide, the polypeptide comprising greater than 70% amino acid sequence
5 identity to an amino acid sequence of SEQ ID NO:3 or SEQ ID NO:5; and
6 (ii) determining the functional effect of the compound upon the
7 polypeptide.
- 1 2. The method of claim 1, wherein the polypeptide specifically binds
2 to polyclonal antibodies generated against SEQ ID NO:3 or SEQ ID NO:5.
- 1 3. The method of claim 1, wherein the functional effect is a chemical
2 effect.
- 1 4. The method of claim 1, wherein the functional effect is a physical
2 effect.
- 1 5. The method of claim 1, wherein the functional effect is determined
2 by measuring changes in intracellular cAMP, cGMP, IP₃, DAG, or Ca²⁺.
- 1 6. The method of claim 5, wherein the changes in intracellular cAMP
2 or cGMP are measured using immunoassays.
- 1 7. The method of claim 1, wherein the functional effect is determined
2 by measuring binding of radiolabeled GTP to a G protein comprising the polypeptide, or
3 to the polypeptide.
- 1 8. The method of claim 1, wherein the functional effect is determined
2 by measuring changes in intracellular Ca²⁺.
- 1 9. The method of claim 1, wherein the polypeptide is expressed in a
2 cell or cell membrane.

1 10. The method of claim 9, wherein the functional effect is determined
2 by measuring changes in the electrical activity of the cell or the cell membrane expressing
3 the polypeptides.

1 11. The method of claim 10, wherein the changes in the electrical
2 activity are measured by an assay selected from the group consisting of a voltage clamp
3 assay, a patch clamp assay, a radiolabeled ion flux assay, and a fluorescence assay using
4 voltage sensitive dyes.

1 12. The method of claim 9, wherein the cell is a eukaryotic cell.

1 13. The method of claim 1, wherein functional effect is determined by
2 measuring changes in the level of phosphorylation of taste cell specific proteins.

1 14. The method of claim 1, wherein the functional effect is determined
2 by measuring changes in transcription levels of taste cell specific genes.

1 15. The method of claim 1, wherein the polypeptide is linked to a solid
2 phase.

1 16. The method of claim 15, wherein the polypeptide is covalently
2 linked to a solid phase.

1 17. The method of claim 1, wherein the polypeptide is recombinant.

1 18. The method of claim 1, wherein the polypeptide is from a human, a
2 mouse or a rat.

1 19. The method of claim 1, wherein the polypeptide has an amino acid
2 sequence of SEQ ID NO:3 or SEQ ID NO:5.

1 *Pub B2* 20. A method for identifying a compound that modulates sensory
2 signaling in sensory cells, the method comprising the steps of:
3 (i) expressing a sensory cell specific G-protein beta polypeptide in
4 a host cell, wherein the G-protein beta polypeptide has greater than 70% amino acid
5 sequence identity to a polypeptide having a sequence of SEQ ID NO:3 or SEQ ID NO:5;

- 6 *Rev B2* (ii) expressing a promiscuous G-protein alpha polypeptide and a
7 sensory cell specific G-protein coupled receptor in the host cell,
8 (iii) contacting the host cell with the compound that modulates
9 sensory signaling in sensory cells; and
10 (iv) determining changes in intracellular calcium levels in the host
11 cell, thereby identifying the compound that modulates sensory signaling in sensory cells.

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